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L5 and rate near execution	27

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<u>L2</u>	L1 AND execution ADJ rate	29	<u>L2</u>

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END OF SEARCH HISTORY

CLASS 700 DATA PROCESSING: GENERIC CONTROL SYSTEMS OR SPECIFIC APPLICATIONS

1 GENERIC CONTROL SYSTEM, APPARATUS OR PROCESS

- 2 . Plural processors —✓
- 3 .. Master-slave
- 4 .. Parallel
- 5 ... Shared memory
- 6 .. Hybrid types (analog, digital)
- 7 .. Including sequence or logic processor
- 8 . Cascade control
- 9 . Supervisory control
- 10 .. Of analog controllers
- 11 . Sequential or selective
- 12 .. State of condition or parameter (e.g., on/off)
- 13 ... Position responsive
- 14 ... Time responsive (duration)
- 15 Having display
- 16 Clock-calendar (e.g., time of day)
- 17 .. Operator interface (e.g., display with control)
- 18 ... Specific programming (e.g., relay or ladder logic)
- 19 .. Plural controlled systems, mechanisms, or elements
- 20 .. Plural controllers
- 21 .. Failure protection or reliability
- 22 .. Electrical power distribution
- 23 .. Sequence program response
- 24 ... Addressing
- 25 ... I/O table
- 26 ... Diagnostics or debugging
- 27 ... Having status indication
- 28 . Optimization or adaptive control
- 29 .. Having model
- 30 ... Comparison with model (e.g., model reference)
- 31 ... Having adjustment of model (e.g., update)
- 32 .. Specific criteria of system performance
- 33 ... Constraint or limit (e.g., max/min)
- 34 Variable
- 35 Bidirectional (e.g., oscillatory)
- 36 Economic (e.g., cost)
- 37 ... Gain (e.g., tuning)
- 38 .. Having perturbation
- 39 ... Test signal
- 40 .. Plural modes
- 41 ... Proportional-Integral (P-I)

) No parameter state chart 7/7/100

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182
2
97
98
169
159

- 42 Proportional-Integral-Derivative (P-I-D)
- 43 . . . Proportional-Derivative (P-D)
- 44 . . Feed-forward (e.g., predictive)
- 45 . . . Combined with feedback
- 46 . . Rate control
- 47 . . Trainable system (e.g., self-learning, self-organizing)
- 48 . . . Neural network
- 49 . . Expert system
- 50 . . Fuzzy logic
- 51 . . Statistical process control (SPC)
- 52 . . Parameter estimation or identification
- 53 . . Multiple input-multiple output (MIMO) system feature (e.g., decoupling)
- 54 . . Having particular compensation or stabilization feature
- 55 . . . Filtering
- 56 . Digital positioning (other than machine tool)
- 57 . . Alignment or registration
- 58 . . . Having position marking
- 59 . . . Having optical sensing (e.g., image projection)
- 60 . . Support positioning (e.g., table, stage)
- 61 . . Multiple axis motion or path control
- 62 . . . Orientation (e.g., posture, pose)
- 63 . . . Including velocity or acceleration control
- 64 . . . Position recording
- 65 . . Operator control of remotely located element
- 66 . . Having particular position determining apparatus (e.g., portable or handheld)
- 67 . Plural variables
- 68 . . Ratio
- 69 . . Positional (e.g., velocity, acceleration)
- 70 . . . Positional with nonpositional
- 71 . Specific compensation or stabilization feature
- 72 . . Lag (e.g., deadtime)
- 73 . Sampled data system
- 74 . . Variable rate
- 75 . Multiple modes (e.g., digital/analog)
- 76 . . Manual/automatic
- 77 . . Fine/coarse
- 78 . Having specific error signal generation (e.g., up/down counter)
- 79 . Having protection or reliability feature
- 80 . . Warning or alarm
- 81 . . Self-test
- 82 . . Backup/standby
- 83 . Having operator control interface (e.g., control/display console)
- 84 . . Keyboard
- 85 . . Positional (e.g., joystick)
- 86 . Having preparation of program

- 87 . . Editing/modifying
- 88 . . Playback
- 89 . Having specific algorithm
- 90 **SPECIFIC APPLICATION, APPARATUS OR PROCESS**
- 91 . Contest or contestant analysis, management, or monitoring (e.g., statistical analysis, handicapping, scoring)
- 92 . . Scoring
- 93 . . Probability determination or handicapping
- 94 . Digital audio data processing system
- 95 . Product assembly or manufacturing
- 96 . . Integrated system (Computer Integrated Manufacturing (CIM))
- 97 . . Design or planning
- 98 . . . 3-D product design (e.g., solid modeling)
- 99 . . . Resource allocation
- 100 Job scheduling
- 101 Priority ordering
- 102 Job release determination
- 103 . . Constraints or rules
- 104 . . . Knowledge based (e.g., expert system)
- 105 . . Rework or engineering change
- 106 . . Material requirement
- 107 . . . Bill of material
- 108 . . Performance monitoring
- 109 . . Quality control
- 110 . . . Defect analysis or recognition
- 111 . . Worker or work station efficiency
- 112 . . Having particular work transport control between manufacturing stations
- 113 . . Mobile transport
- 114 . . Work positioning
- 115 . . Product tracking (e.g., having product or carrier identification)
- 116 . . . Having identification controlled manufacturing operation
- 117 . . Particular manufactured product or operation
- 118 . . Three-dimensional product forming
- 119 Rapid prototyping (e.g., layer-by-layer, material deposition)
- 120 Stereolithography
- 121 . . . Integrated circuit production or semiconductor fabrication
- 122 . . . Continuous material having indeterminate length (e.g., web, strand, strip, or sheet)
- 123 Material deposition or application (e.g., spraying, coating)
- 124 Registration control
- 125 Having a reference mark or pattern
- 126 Winding
- 127 Sheet making (e.g., paper product)

- 128 Paper machine or subsystem control
- 129 Profile analyzer or controller
- 130 . . . Textile
- 131 Pattern design
- 132 For a garment
- 133 Having particular pattern producing operation (e.g., dyeing)
- 134 Pattern cutting
- 135 Pattern matching or positioning
- 136 Sewing
- 137 Having particular input data (e.g., stitch)
- 138 Embroidering
- 139 Spinning or winding (e.g., yarn)
- 140 Loom control
- 141 Knitting
- 142 Fiber preparation
- 143 Having monitoring or inspecting (e.g., abnormality detection)
- 144 Yarn quality
- 145 . . . Metal
- 146 Casting or drawing
- 147 Control of metallurgical property
- 148 Rolling
- 149 Having schedule adjustment
- 150 Control or detection of a particular condition
- 151 Speed control
- 152 Tension control (e.g., interstrand)
- 153 Temperature control
- 154 Flatness or crown control
- 155 Thickness control
- 156 Roll eccentricity compensation
- 157 . . . Glassware forming
- 158 IS (individual section) machine
- 159 . . . Machining
- 160 Having particular tool or tool operation
- 161 Tracing or duplicating
- 162 Electrical discharge machining (EDM)
- 163 3-D sculpturing using nontracing prototype sensor
- 164 Grinding
- 165 Bending (e.g., press brake)
- 166 Laser
- 167 Of elongated material (e.g., timber, veneer, web)
- 168 Portable (e.g., handheld)
- 169 Supervisory control (e.g., plural tools or plural processors)
- 170 Having particular control of a motor parameter
- 171 Material usage optimization
- 172 Multiple mode (e.g., rough-finish, coarse-fine)

— Supervisory not
in terms of
program?

173 Adaptive (optimizing) system
174 Performance monitoring
175 Condition of tool or workpiece (e.g.,
 tolerance, tool wear)
176 Offsetting
177 Protective or diagnostic feature
178 Tool/workpiece interference prevention
179 Tool selection/change
180 Having operator interface feature
181 Specific programming format (e.g., macro)
182 Including CAD, CAM, or CIM technique
183 Preset pattern
184 Machining path display
185 Prompting technique
186 Digital positioning technique
187 For curve or contour
188 Including velocity or acceleration control
189 Interpolation
190 Specified tool feed path at entry or
 withdrawal
191 Repeated machining passes
192 Alignment of tool or workpiece (e.g., origin
 or path return)
193 Positional compensation or modification
 compensation or mod
194 Coordinate transformation technique
195 Having particular measuring device (e.g.,
 probe).
196 . . . Extruding
197 . . . Molding
198 Control of curing
199 Vulcanization
200 Injection
201 Plural molding machines or stations
202 Control of temperature
203 Control of pressure
204 Monitoring, inspection, or control of a
 particular condition
205 Control of temperature
206 . . . Pressing
207 . . . Heating
208 Drying
209 Furnace
210 Multizone
211 Oven
212 Sintering, soldering, or bonding
213 . . Article handling
214 . . Article storing, retrieval, or arrangement (e.g.,
 warehousing, automated library)
215 . . . Having an identification code
216 . . . Order filling

- 217 . . . Article support load management (e.g.,
palletizing)
- 218 . . . Particular charging or discharging apparatus
- 219 . . Associating or disassociating plural articles
- 220 . . . Inserting
- 221 Having an identification code
- 222 Monitoring or inspection (e.g., incomplete
assembly)
- 223 . . . Collating or sorting
- 224 Having an identification code
- 225 . . Having an identification code
- 226 . . . Identification code determines article
destination
- 227 Preparation of an article for an identification
code (e.g., printing, encoding)
- 228 . . Having particular transport between article
handling stations
- 229 . . . Transport position identification
- 230 . . . Having a conveyor
- 231 . . Dispensing or vending
- 232 . . . Operator or payment initiated
- 233 Customized dispensed article (e.g., operator
design)
- 234 Demonstration or duplication of article (e.g.,
software, video)
- 235 Printing on or of dispensed or vended article
- 236 Data collection or reporting (e.g., sales,
inventory)
- 237 Authorization (e.g., password, time usage
limit, personal identification number (PIN))
- 238 Price adjustment
- 239 . . . Blending or mixing
- 240 . . . Condition controlled dispensing (e.g., weight or
volume)
- 241 . . . Central control of plural dispensing units
- 242 . . . Particular supply arrangement (e.g., plural
sources or compartments)
- 243 Movable (e.g., rotatable)
- 244 . . . Monitoring or inspection
- 245 . . Robot control
- 246 . . Combined with knowledge processing (e.g.,
natural language system)
- 247 . . Plural controlled devices or plural nonvision
controlling devices
- 248 . . . Plural robots
- 249 . . . Plural processors
- 250 . . Specific enhancing or modifying technique (e.g.,
adaptive control)
- 251 . . . Coordinate transformation
- 252 . . . Interpolation
- 253 . . . Programmed data (e.g., path) modified by
sensed data

254 . . . Compensation or calibration
255 . . . Collision prevention
256 . . . Overload prevention
257 . . . Based on user input
258 . . Having particular sensor
259 . . . Vision sensor (e.g., camera, photocell)
260 . . Having control of force
261 . . . Having control of robot torque
262 . . Using particular manipulator orientation
 computation (e.g., vector/matrix calculation)
263 . . . Using Jacobian computation
264 . . Having particular operator interface (e.g.,
 teaching box, digitizer, tablet, pendant, dummy arm)
265 . Nonreactive mixing process (e.g., mixing cement,
 preparing solution, diluting chemical)
266 . Chemical process control or monitoring system
267 . . Titration or pH level
268 . . Synthesis process
269 . . . Polymerization/trimerization
270 . . Distillation
271 . . Refinement or purification or rejuvenation
272 . . . Of fuel
273 . . Separation process
274 . . Control of combustion or heating apparatus
 (e.g., kiln, furnace, autoclave, burner, combustion
 system)
275 . Mechanical control system
276 . . HVAC control
277 . . . Multiple zones
278 . . . Specific thermally responsive controller
279 . . Balancing or alignment
280 . . Vibration or acoustic noise control
281 . . Control of fluid level or volume
282 . . Flow control (e.g., valve or pump control)
283 . . . Dispensing management (e.g., spraying)
284 Irrigation
285 . . . Fluid mixing
286 . Electrical power generation or distribution system
287 . . Turbine or generator control
288 . . . Cogenerative system
289 . . . Adaptive valve control
290 For turbine speed control
291 . . Energy consumption or demand prediction or
 estimation
292 . . System protection (e.g., circuit interrupter,
 circuit limiter, voltage suppressor)
293 . . . Abnormal power, current, or impedance
 condition
294 . . . Abnormal phase, waveform, or polarity
 condition

- 295 . . Power allocation management (e.g., load adding/shedding)
- 296 . . . Time based control (e.g., real time or duty cycle)
- 297 . . Power supply regulation operation
- 298 . . . By voltage regulation
- 299 . Specific application of temperature responsive control system
- 300 . . For heating or cooling
- 301 . Specific application of pressure responsive control system
- 302 . Specific application of positional responsive control system
- 303 . Specific application of dimensional responsive control system
- 304 . Specific application of speed responsive control system
- 305 . Specific application of weight responsive control system
- 306 . Specific application of control based on elapsed time

CROSS-REFERENCE ART COLLECTIONS

900 **SPECIAL ROBOT STRUCTURAL ELEMENT**

FOREIGN ART COLLECTIONS

FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collection listed below. These collections contain ONLY foreign patents or nonpatent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

- FOR 101 **SEQUENTIAL OR SELECTIVE DATA PROCESSING CONTROL SYSTEM, METHOD, OR APPARATUS (364/140)**
- FOR 102 **OPTIMIZATION OR ADAPTIVE DATA PROCESSING CONTROL SYSTEM, METHOD, OR APPARATUS (364/148)**
- FOR 103 **DIGITAL POSITIONING (OTHER THAN MACHINE TOOL) CONTROL SYSTEM, METHOD, OR APPARATUS (364/167.01)**
- FOR 104 **GAME OR AMUSEMENT (364/410)**
- FOR 105 . Scoring (364/411)
- FOR 106 . Wagering (364/412)

WEST Search History

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Set Name Query
side by side

Hit Count Set Name
result set

DB=USPT; PLUR=NO; OP=OR

L3	L2 AND (object ADJ oriented OR Object-oriented)	20	L3
L2	L1 AND control ADJ system	661	L2
L1	gordon.xp. OR gordon.xa.	3046	L1

END OF SEARCH HISTORY

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Terms	Documents
L2 AND (object ADJ oriented OR Object-oriented)	20

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Search:

L3

[Refine Search](#)[Recall Text](#)[Clear](#)**Search History****DATE: Friday, August 09, 2002** [Printable Copy](#) [Create Case](#)**Set Name Query**

side by side

Hit Count Set Name

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END OF SEARCH HISTORY